United States Patent [19]

Klehm, Jr.

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[54] **PROTECTIVE ENVIRONMENT FOR KEYBOARD ACTUATABLE SWITCHES**

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Related U.S. Application Data

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[52] **U.S. Cl.** ..... **200/5 A**, 200/159 B, 200/168 G, 200/172 R

[51] **Int. Cl.** **H01h 13/70**, H01h 9/04

[58] **Field of Search** ..... 200/1 R, 5 R, 5 A, 159 R, 200/159 B, 172 R, 172 A, 166 C, 168 G; 340/365 R, 365 C; 235/145 R; 197/98, 102

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[57] **ABSTRACT**

Relates generally to the production of electricial signals from a keyboard, each key of which is individually operatively associated with a switching device whose activation to electrical conductive condition is controlled by the displacement of the key. These switches are hermetically sealed from the atmosphere and are electrically scanned in succession at relatively high speeds and at a repetitious rate such that several scanning cycles occur during the normal activation of a selected key. The keyboard mechanism also includes a shift register having one more bit position than the number of switch devices and into which a bit is introduced into the "one" position at the instant the scan encounters a closed switch of the keyboard. This bit is then shifted through the register in timed relation to the scan of the remaining key switches and unloaded into the last bit position of the register. A detector senses the presence of a bit in both the "one" position and the last position of the shift register and upon detection of a bit solely in the one position it delivers a signal indicative of the character represented by the actuated key and upon detecting bits in the two extreme positions of the shift register it nullifies the delivery of such a signal.

3 Claims, 5 Drawing Figures